BEFORE THE

STATE CORPORATION COMMISSION

OF VIRGINIA

Application of	)	
	)	
Verizon Virginia Inc.	)	**Case No. PUC-2007-_____**
and	)	
Verizon South Inc.	)	
	)	
For a Determination that Retail Services Are Competitive and Deregulating and Detariffing of the Same	)	

DIRECT TESTIMONY
OF
MR. HAROLD E. WEST, III

On Behalf of
Verizon Virginia Inc.
and
Verizon South Inc.

PUBLIC VERSION

January 17, 2007

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TESTIMONY OF HAROLD E. WEST, III IN SUPPORT OF VERIZON'S APPLICATION FOR A DETERMINATION THAT RETAIL SERVICES ARE COMPETITIVE AND DEREGULATING AND DETARIFFING THE SAME

I. INTRODUCTION, PURPOSE AND SUMMARY OF TESTIMONY

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Harold E. West III. I am employed by Verizon Services Corp. as Director – Regulatory Support. My office is located at One Verizon Way, Basking Ridge, New Jersey.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I graduated from Princeton University in 1980 with a Bachelor of Sciences in engineering. In 1991, I completed an Executive Masters program at the University of Pennsylvania and received a Master of Sciences in engineering. In

1980, I began working at New Jersey Bell as a central office equipment engineer. I then held positions of increasing responsibility in Service Costs, Rates, Product Management and Sales. I began my current position in December 1994. In this position, I have testified before public utility commissions across the country, as well as the Federal Communications Commission ("FCC"), on various marketing, policy and pricing issues associated with competitive entry into telecommunications markets.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to demonstrate that the request of Verizon Virginia Inc. ("Verizon VA") and Verizon South Inc. ("Verizon South") (collectively, "Verizon") to have its residential and business telecommunications services declared competitive is supported by evidence of substantial competition. As set forth in Virginia Code § 56-235.5(E), the Virginia State Corporation Commission ("Commission") has the authority to deregulate telecommunications services determined to be "competitive." The evidence I present demonstrates that Verizon has met the requirements for competitive classification enumerated in Virginia Code § 56-235.5(F). This evidence also supports Verizon's request that once the Commission declares its retail services competitive, the Commission should exercise its authority under Virginia Code § 56-235.5(E) to deregulate and detariff them.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is divided into five parts. In this part, I explain the purpose of my testimony and provide a brief summary of the evidence I present both as written testimony and in accompanying exhibits.

In Part II, I identify the specific criteria for declaring Verizon's retail services competitive as set forth in § 56-235.5(F) and discuss how those criteria contemplate a forward-looking analysis of competition.

In Part III, I present evidence demonstrating that Verizon's mass market services satisfy the criteria to be declared competitive. First, I identify the specific mass market services Verizon seeks to have declared competitive. Next, I discuss the "relevant market" – in particular, the geographic and product markets – to be analyzed when considering whether Verizon has met the statutory criteria for having those services declared competitive. I then provide evidence demonstrating that entry barriers to the mass market have been eliminated and that numerous competitors – including various types of intermodal competitors and traditional competitive local exchange carriers ("CLECs") – are present in the mass market and reasonably meeting the needs of mass market customers. I provide a "connections analysis" detailing the percentage availability by household of the various communications platforms and competitive service providers. And, although residential and small business customers are properly included in the same relevant market, I nonetheless provide evidence of competition pertaining specifically to each of these customer segments in order

to forestall any arguments that Verizon's proof is insufficient for one or the other. I also present evidence relating specifically to Directory Assistance Services.

In Part IV, I present evidence demonstrating that Verizon's enterprise services satisfy the competitive criteria. First, I identify the specific enterprise services that Verizon seeks declared competitive. Next, I discuss the "relevant market" to be analyzed when considering whether Verizon has met the statutory criteria for the competitive determination. I then provide evidence demonstrating that entry barriers to the enterprise market have been eliminated and that numerous competitors – including CLECs, cable Multiple Systems Operators ("MSOs"), global network solutions providers, IP applications providers, systems integrators, equipment manufacturers, wireless providers, and others – are present in the enterprise market and reasonably meeting the needs of enterprise customers. I also present evidence relating specifically to private line services. In Part V, consistent with Va. Code § 56-235.5(H), I discuss why "there is no cross-subsidization of competitive services by monopoly services."

Q. DOES YOUR TESTIMONY RELY ON TESTIMONY FILED BY OTHER VERIZON WITNESSES?

A. Yes. My testimony relies on the economic analysis outlined by Dr. William Taylor as the basis for the market definitions used in Verizon's analyses of competition. I also rely in part on the survey analysis conducted by Mr. William Newman, which show that consumers are not only aware of competitive alternatives to Verizon's retail services, but are taking advantage of them. Additionally, my testimony relies in part on the competitive analysis performed by Dr. Jeffrey

Eisenach in discreet geographical areas within Verizon's service territory in Virginia.[1]

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony demonstrates that the communications industry in Virginia is in the midst of a fundamental transformation that is providing both residential and business customers of every type with an increasing array of options to meet their communications needs, while forcing traditional wireline service providers to meet new competitive challenges. Thanks to substantial and continuing private investment in Virginia's communications infrastructure, customers throughout the Commonwealth may choose from competing platforms and providers for voice and broadband services, and increasingly for video services. This ongoing transformation has resulted from technological and market forces that have brought effective competition to every part of Virginia.

The transformation manifests itself in the form of robust intermodal competition, resulting from network convergence that has brought at least three formerly disparate industry sectors into direct competition with one another by allowing each of their different network platforms to provide similar bundles of communications services. For example, cable companies now provide video, broadband Internet and other data services, ***and*** voice; wireless mobile networks provide voice, data, short text messaging, ***and*** video services; and wireline

[1] Verizon's Virginia service territory encompasses all or part of ten MSAs. The MSAs are Blacksburg-Christiansburg-Radford, Charlottesville, Danville, Harrisonburg, Lynchburg, Richmond, Roanoke, Virginia Beach-Norfolk-Newport News, Washington-Arlington-Alexandria and Winchester. In addition, Verizon's Virginia territory also covers six non-MSA regions. They are Eastern Shore, North, Northern Neck, Northwest, Southside and Southwest.

services platforms provide voice, data, Internet, instant messaging, voice over Internet protocol ("VoIP"), ***and*** video. As a result of this network convergence, Virginia customers can chose among several different ***communications platforms***, as well as multiple providers on those platforms, to meet their communications needs.

As described in greater detail below, available data show that intermodal competitors made substantial competitive inroads in Virginia in the period from 2000 to 2005:[2]

- At year end 2000, there were about 240,000 more mass market (residential and small business) wireline access lines than total wireless subscribers and mass market high-speed broadband lines combined.
- Only three years later there were 1.3 million ***fewer*** mass market wireline lines than total wireless subscribers and mass market broadband lines combined.
- As the number of wireless and broadband lines has increased dramatically, the number of wired lines has remained relatively flat; thus, by year end 2005, total LEC wireline count only grew by 283,000 from 2000 to 2005, while intermodal lines increased by 3.6 million over the same period.
- After a period of rapid growth, interstate switched access minutes of use for the major Virginia carriers declined almost 36 percent, from the 2000 level and local usage fell about 25 percent.

The impact of intermodal competition is even more pronounced than these data alone suggest: wireline access lines would have grown under historical

[2] FCC Reports, *Local Telephone Competition: /Status as of December 31, 2000-2005* and *High-Speed Services for Internet Access, Status as of December 31: 2000-2005;* ARMIS, FCC Report 43-08, The ARMIS Operating Data Report, Table IV, "Telephone Calls" and National Exchange Carrier Association, Network Usage by Carrier.

competitive conditions because the Virginia population has continued to grow at least as fast as it did historically.

Although intermodal competition is particularly strong in more densely populated areas, it is present and growing in all parts of the Commonwealth, including the rural areas. For example, available data show that:[3]

- Cable companies have deployed broadband facilities to 99 percent of homes passed and 88 percent of total households in Verizon's territory in Virginia.
- Cable telephony is available to 67 percent of cable homes passed and 60 percent of total households.
- At least three wireless carriers are available to 93 percent of households in Verizon's service area in the Commonwealth, and over 99.8 percent of households have at least one wireless carrier available.
- About **[BEGIN CONFIDENTIAL] [END CONFIDENTIAL]** percent of households in the Commonwealth have "cut the cord" (*i.e.*, disconnected their wireline service altogether)—including a similar percent in MSAs and rural areas (*i.e.*, non-MSA regions).[4]
- 94 percent of Zip Code areas in Virginia have at least two broadband providers with lines in service, and 68 percent of Zip Codes have four or more such providers.

As a result of this intermodal competition, Virginia consumers have more competitive options available to them than ever before:

- 96 percent of Virginia households in Verizon's service area have two or more alternative technology platforms (either Commercial Mobile Radio Services ("CMRS"), cable modem or telephony, fixed wireless broadband,

[3] Warren Communications, Inc., *The Television and Cable Factbook*, TNS Telecoms ReQuest® Consumer Survey; FCC Report, *High-Speed Services for Internet Access, Status as of December 31, 2005,* Table 17, wireless coverage maps for Alltel Wireless, Appalachian, Cellular One, Cingular, NTELOS, Sprint/Nextel, T-Mobile, US Cellular and Verizon Wireless and the Census Bureau.

[4] TNS Survey Results.

broadband powerline, traditional UNE CLECs, or Verizon broadband) to meet their communications needs. 78 percent of households have four or more alternative technology platforms.[5]

- 99 percent of households have two or more competitive service provider alternatives to meet their communications needs; 92 percent have five or more alternatives; and 73 percent have eight or more alternatives.[6]

Intermodal competition is not confined to the mass market: it is burgeoning in the enterprise market as well. Moreover, a variety of providers – including Global Network Service Providers ("GNSPs"), IP applications providers, equipment manufacturers, systems integrators and others – compete nationally and here in Virginia to meet the full communications service needs of enterprise customers.

The evidence that I present addresses the competitiveness of two distinct markets – that is, the mass market (consisting of residential and small business customers) and the enterprise market (consisting of medium-sized and large business customers). As even this cursory overview of the evidence shows, there are no barriers to entry into the mass market or the enterprise market in Virginia, and numerous competitors are present and reasonably meeting the needs of customers in those markets. Consequently, the Commission can rest assured that competition or the potential for competition in the marketplace regulates the price of Verizon's retail services, and should declare those services competitive.

[5] *See* Exhibit VA-4 – Overall Platform Availability.

[6] *See* Exhibit VA-5 – Competitor Availability.

II. THE STATUTORY CRITERIA FOR COMPETITIVE CLASSIFICATION

Q. WHAT IS THE STATUTORY UNDERPINNING OF VERIZON'S PETITION?

A. Va. Code § 56-235.5(F) provides that:

> [t]he Commission may determine telephone services of any telephone company to be competitive when it finds competition or the potential for competition in the market place is or can be an effective regulator of the price of those services. Such a determination may be made by the Commission on a statewide or a more limited geographic basis, such as one or more political subdivisions or one or more telephone exchange areas, or on the basis of a category of customers, such as business or residential customers.

Q. DOES VA.CODE § 56-235.5(F) SPECIFY THE CRITERIA THE COMMISSION MUST CONSIDER WHEN IT DETERMINES WHETHER TO RECLASSIFY SERVICES AS COMPETITIVE?

A. Yes. The Commission must consider: "(i) ease of market entry, [and] (ii) the presence of other providers reasonably meeting the needs of consumers."[7] Dr. Taylor explains that these factors contemplate a forward-looking analysis of competition, which considers not merely current market conditions, but also marketplace dynamics. More specifically, such an analysis takes into account that: (1) convergence among technologies has stimulated intense intermodal competition that is growing rapidly in all parts of Verizon's service area; (2) competition has expanded well beyond traditional wireline boundaries such that wireline voice telephony is becoming just one of several communications platforms available to customers; and (3) competitors are able easily to enter or

[7] While the section also contemplates consideration of "other factors the Commission considers relevant," the Commission has not enumerated any other factors in its decisions addressing reclassification requests under Va. Code § 56-235.5(F). As Dr. Taylor explains in his testimony, the central issue raised by the criteria specified in Va. Code § 56-235.5(F) is whether market forces can discipline prices. Accordingly, from the perspective of actual and potential customers, the Commission should consider whether competitors offer effective, economic substitutes for the services provisioned by Verizon.

expand their geographic presence and/or product offerings in the mass market such that, even in areas where competition is less intense than in others, the potential for even more substantial competition will constrain Verizon's pricing.

Q. WHAT TYPES OF EVIDENCE SHOULD THE COMMISSION CONSIDER IN A "FORWARD LOOKING" ANALYSIS OF COMPETITION?

A. Dr. Taylor explains that the Commission's forward looking analysis should examine not merely the current state of competition in any particular area, but also potential increases in competition. He also explains why the Commission's analysis should look beyond historical and current market share data, and consider industry dynamics and customer behavior.

In the current Virginia communications market, customers are increasingly using platforms other than traditional wireline services to meet their communications needs, and in fact have come to rely on services offered by intermodal providers as alternatives for wireline services. For their part, wireline providers are setting prices in response to the actions of cable companies, wireless providers, VoIP providers and other intermodal competitors. These supply considerations show that historical geographic boundaries and regulatory distinctions are no longer meaningful, and reliance on them would cause the Commission to ignore the marketplace realities that have compelled Verizon to seek the regulatory relief that will allow it to respond to competition.

III. VERIZON'S MASS MARKET SERVICES SATISIFY THE STATUTORY CRITERIA FOR BEING DECLARED COMPETITIVE.

A. Mass Market Services to be Declared Competitive

Q. WHICH SPECIFIC SERVICES DOES VERIZON SEEK TO HAVE DECLARED COMPETITIVE?

A. Verizon seeks to have declared competitive almost all of its residential and business services currently regulated under its Alternative Regulation Plan (the "Plan") as either Basic Local Exchange Telephone Services ("BLETS"), Other Local Exchange Telephone Services ("OLETS"), or Bundled Services.[8]

Q. ARE THERE ANY SERVICES VERIZON DOES NOT SEEK DECLARED COMPETITIVE?

A. Yes. Verizon does not seek to have any wholesale services (including switched and special access), Lifeline, or E911 services declared competitive.

B. Definition of the Relevant Market

Q. WHAT MARKET DOES YOUR COMPETITIVE ANALYSIS EXAMINE?

A. Dr. Taylor explains that the relevant market is defined by reference to a "geographic market" and a "product market." Here, the relevant market to be considered is - at a minimum - the statewide market for all residential and business voice communications and related services, regardless of the platform used to provide them. Verizon's Application and evidence focus on the "local" services that are regulated by the Commission. These services, in reality, are part of a larger product market that is national - if not global - in scope. This

[8] Exhibit VA-1 to this filing includes a list of all the residential and business services that Verizon seeks declared competitive. The list includes the tariff reference associated with each of the individual services.

definition is consistent with the manner in which communications services are bought and sold today, and comports with economic principles for defining a relevant market outlined by Dr. Taylor.

1. The Relevant Geographic Market

Q. PLEASE EXPLAIN WHY THE GEOGRAPHIC MARKET FOR PURPOSES OF THIS CASE IS APPROPRIATELY DEFINED AS STATEWIDE IN SCOPE.

A. Mass market customers have competitive alternatives to Verizon's services regardless of their geographic location within the Commonwealth, even if the identity of the provider differs across areas such as MSAs or wire centers. Numerous firms compete throughout Verizon's service area to provide a full array of communications services over different platforms that mass market customers can and do treat as competitive alternatives for all of Verizon's services.

Competitors serve mass market customers in all parts of Verizon's incumbent service area. Wireless providers serving Virginia customers operate on a national scale. While Virginia cable companies operate local or regional networks, the networks themselves are nearly ubiquitous and virtually all of them have been upgraded to allow for two-way broadband services capable of carrying voice traffic. In addition, mass market customers that purchase broadband service, which is widely available over a number of different platforms, can obtain telephony services from a host of VoIP providers. These providers typically offer calling plans for as low as $25 that include unlimited local and long distance calling to any number in the US or Canada and a host of "free" vertical features (including call waiting, Caller ID, call forwarding and others). Their customers

can plug in a VoIP phone in California (or any other state) with a local telephone number from Virginia (or any other state).

Current technology allows facilities-based CLECs to use any of the 69 switches they have deployed in Virginia, and the countless switches deployed elsewhere, to serve customers located hundreds of miles away.[9] Finally, the ubiquity of Verizon's wholesale offerings (such as resale, UNEs, or Wholesale Advantage) makes it possible for competitors to expand their service offerings into areas they do not currently serve without incremental capital expenditures.

The geographic market must be defined in a way that accounts for the breadth and scope of competitors' reach. The evidence demonstrates that competitors are capable of serving Verizon's entire incumbent service area and, indeed, are doing so already, with substantial presence everywhere Verizon serves. Because mass market customers can turn to one or more competitive alternatives for Verizon's services in every MSA and non-MSA region, the market is properly defined - at a minimum - as statewide in scope.

Q. HOW HAS THE VIRGINIA LEGISLATURE ADDRESSED THE GEOGRAPHIC BREADTH OF THE RELEVANT MARKET FOR SERVICES TO BE DECLARED COMPETITIVE?

A. Section 56-235.5(F) specifically permits the Commission to declare services competitive on a statewide basis. Verizon's evidence supports such a finding, as mass market customers throughout the state have competitive alternatives to Verizon's services.

[9] Local Exchange Routing Guide ("LERG").

2. The Relevant Product Market

Q. WHY SHOULD ALL OF VERIZON'S COMMUNICATIONS SERVICES PROVIDED TO CUSTOMERS BE INCLUDED IN THE SAME PRODUCT MARKET?

A. As Dr. Taylor explains, the individual tariffed services Verizon examined in this case are not, in themselves, meaningful markets. Instead, each of the services that Verizon seeks declared competitive is just one component of a package of complementary services that customers purchase. These complementary services tend to be bought and sold together from a single provider, not in piecemeal fashion from several providers. Customers do not purchase vertical features from one carrier while purchasing other, basic services such as access and usage, from another.[10]

Service providers seek to maximize both customer satisfaction and corporate efficiency by marketing and providing comprehensive bundles of services. For their part, mass market customers generally prefer to deal with a single provider of services that can satisfy as many of their communications needs as possible at a price they are willing to pay. Because competition for the customer involves competition for all communications services sold to that customer, all of the services are properly considered part of the same product market.

Q. WHAT EVIDENCE IS AVAILABLE THAT DEMONSTRATES CONSUMER PREFERENCES FOR PURCHASING MASS MARKET SERVICES IN BUNDLES?

[10] Although I note that a handful of services, such as voice mail, speed dial, and re-dial, are available in customer premise equipment, customers may choose not to buy from any carrier.

A. Several recent market research reports have addressed consumer preferences for bundles. A May 2006 market analysis report prepared by IDC revealed:

> The US communications marketplace is undergoing a sustained shift from services offered individually to those offered in a bundle. The number of bundled customer relationships is forecast to grow from about 42.7 million in 2005 to 85.4 million in 2010. Overall bundled services will grow from 94 million to just under 223 million, equating to an average of 2.2 services per bundle today compared with 2.6 services per customer in 2010. This growth is driven by a variety of factors that include new technologies and strategic partnerships that allow the major cable and telecom providers to offer a wider variety of voice, video, broadband, and mobile wireless services.[11]

A March 2006 report published by the Yankee Group reported similar trends:

> The competition for the bundle is well under way. All major cable competitors and local phone companies have adopted a robust bundle strategy. The bundle is the core element of these operators' long-term strategies, creating an intense competitive communications landscape. Multiple-service customers bring many attractive benefits to the provider, including increased customer interaction, less customer interaction with the competition, new revenue, higher [average revenue per unit] and reduced churn. ....
>
> The bundle has moved beyond core voice and video services and now includes mega bundles such as the triple play and quadruple play. Product offerings have become largely comparable. The challenge for telcos and cable providers is to differentiate their product offerings. Consumers and telephone operators continue to fall back on the price message to drive their bundle acquisitions.[12]

New consumer research from Leichtman Research Group Inc. revealed that 43% of consumers say that they live in a household that currently receives a "bundle" of TV, phone or Internet services from a single company. This represents a 10%

[11] IDC Market Analysis, *U.S. Multiplay Bundled Services 2006-2010 Forecast*, May 2006.

[12] Yankee Group Report, *The Communications Bundle: The Time is Now*, March 2006.

increase over 2005 when 33% of households received more than one service from a single provider.[13]

In addition to these market studies, Verizon's own data indicate a strong preference to purchase services in bundles. For example, as of September 2006, **[BEGIN CONFIDENTIAL] [END CONFIDENTIAL]** percent of all of Verizon's residence customers purchase a package of services, and **[BEGIN CONFIDENTIAL] [END CONFIDENTIAL]** percent of all of its business customers purchase a Business Freedom package of services from Verizon. Many of those customers that do not buy a formal, Verizon-created bundle opt to assemble their own bundles, packaging local exchange service with their choice of vertical services. Later, I will provide examples of the types of packages that Verizon and its competitors offer mass market customers in Virginia.

Mr. Newman's survey evidence further demonstrates that mass market customers who purchase service from Verizon and its competitors purchase bundles. His survey shows that **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] percent of small business customers with 1 to 3 lines purchase packages from their local service provider.

[13] Leichtman Research Group Press Release issued April 24, 2006 "*Consumers are Increasingly Likely to be in 'Bundles'.*"

Cox Communications President Patrick Esser has recognized customer preference for and the effectiveness of providing bundled services, recently saying that "[c]ustomers like the power of one provider, one bill and one number to call for service .... In fact, [Cox's] bundling strategy has reduced customer churn by 40 percent."[14]

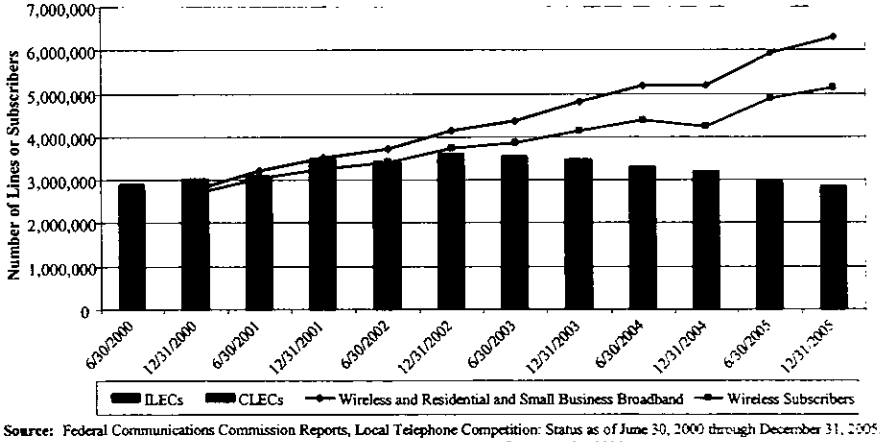
Q. WHY SHOULD THE PRODUCT MARKET INCLUDE ALL INTERMODAL ALTERNATIVES SUCH AS WIRELESS, BROADBAND AND VOIP SERVICES?

A. As Dr. Taylor explains in detail in his testimony, a product market is properly defined to include all services that customers use or can use in lieu of the services in question if the price of those services were raised to anti-competitive levels. Today, mass market customers purchase an array of communications services in a market that includes not only traditional wireline services, but also a large and growing number of related options such as cable, wireless, broadband, and VoIP services. CLECs have long provided wireline services that compete with Verizon's services and that are properly included in the product market relevant here. However, with the introduction of new technologies that have transformed the industry, very significant competition for mass market customers now comes from facilities-based intermodal competitors that do not rely on Verizon's facilities at all, and that are not considered traditional "wireline" services.

[14] Reuters, "*Cox Says TV, Web, Phone Bundle Helps Keep Subscribers*," June 6, 2006. http://yahoo.reuters.com/news/articlehybrid.aspx?storyID=urn:newsml:reuters.com:20060606:MTFH97427_2006-06-06_20-31-02_N06415357&type=comktNews&rpc=44.

The various technology platforms used to carry communications have converged in a way that allows different types of platforms to provide increasingly similar bundles of communications services. Because of this convergence, traditional wireline companies like Verizon must now compete with (i) cable companies that have made substantial investments in their networks to provide video, data and voice services, (ii) wireless carriers that provide voice, data and increasingly, video services, (iii) Internet and broadband services providers that provide data connections that also enable VoIP; and (iv) providers using fixed wireless or Broadband Over Powerline ("BPL") technologies to serve mass market customers. Many wireline customers have already turned to these intermodal alternatives, and many more are expected to do so. In fact, as shown in Figure 1 below, conventional wireline service is declining in Virginia while wireless and broadband service is increasing in the Commonwealth:

Figure 1
Intermodal Competition for Mass Market Consumers in Virginia



Source: Federal Communications Commission Reports, Local Telephone Competition: Status as of June 30, 2000 through December 31, 2005, High Speed Services for Internet Access: Status as of December 31, 2000 through December 31, 2005
Note:1. Data on residential and small business for 6/30/2005 and 12/31/2005 is residential only.
2. Only LECs with at least 10,000 lines in a state were required to report through December 2004. Beginning with the June 2005 data all LECs are required to report.
3. For data through December 2004, only facilities-based wireless carriers with at least 10,000 mobile telephony subscribers per state were required to report data, and they were instructed to use billing addresses to determine subscriber counts by state. Starting with the June 2005 data, all facilities-based wireless carriers are required to report, and to use the area codes of telephone numbers provided to subscribers to determine subscriber counts by state.

As summarized in the Figure, through December 2004, residential and small business conventional wireline (*i.e.,* ILEC + CLEC) access lines in the Commonwealth decreased 11 percent since their peak in December 2002. Although consistent mass market line counts are not available in 2005, the trends in residential conventional wireline access lines, which fell 3 percent in the second half of 2005 alone, suggest that mass market wireline access lines have continued to decline. At the same time, intermodal alternatives have become much more popular, indicating that customers are shifting from conventional wireline to these alternatives. Since year end 2000, (1) the number of wireless subscribers increased by 89 percent or about 2.4 million new subscribers; (2) the number of mass market broadband lines increased by over 1 million or well over 1,000 percent and (3) by December 31, 2005 the growth in the number of wireless and residential broadband subscribers exceeded the growth in the number of residential ILEC and CLEC lines by about 3.4 million (more than twice as many).

While the percentage of customers who have switched to these alternatives might vary from one type of service (e.g., cable telephony) to another (e.g., wireless), the percentage is essentially irrelevant when considering whether the service can be considered a competitive alternative to Verizon's wireline services. What matters is that customers can turn to these intermodal alternatives in the case of a significant increase in the price of Verizon's services. As Dr. Taylor explains, the threat that customers will do so is itself sufficient to constrain the price of Verizon's service. Customers can – and likely would – turn

to all of these alternative services in such circumstances and they are, therefore, properly considered part of the product market as Verizon's mass market services.

Q. WHY IS IT APPROPRIATE TO INCLUDE RESIDENTIAL AND SMALL BUSINESS CUSTOMERS IN THE SAME "MASS" MARKET?

A. As the FCC has recognized:

> [v]ery small businesses typically purchase the same kinds of services as do residential customers, and are marketed to and provided service and customer care in a similar manner. Therefore, we usually include very small businesses in the mass market for our analysis.[15]

In fact, the evidence shows that competitors that serve residential customers typically serve small business customers as well.[16] Moreover, the same technology is used to serve both sets of customers, so that a provider serving one can easily expand to serve the other. Finally, providers currently serving only residential or business customers can expand to serve the other customer segment using Verizon's wholesale services.

C. Ease of Market Entry

Q. ARE COMPETITORS EASILY ABLE TO ENTER THE MASS MARKET FOR COMMUNICATIONS SERVICES IN VIRGINIA?

A. Yes, absolutely. As Dr. Taylor explains, legal, structural, and economic barriers to competitive entry have been eliminated in Virginia. Indeed, in approving

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[15] *I/M/O Application of GTE Corporation and Bell Atlantic Corporation for Consent to Transfer Control of Domestic and International Sections 214 and 310 Authorizations and Application to Transfer Control of a Submarine Cable Landing License;* CC Docket No. 98-184, FCC 00-221, Rel. Jun. 16, 2000 at ¶ 102 and n.253.

[16] As shown in Exhibit VA-17, virtually all of the CLECs that serve residential customers also serve business customers.

Verizon's Section 271 application, the FCC found that "Verizon has taken steps to open its local exchange markets in Virginia to competition.[17] Since Verizon's 271 application was approved, the CLEC competitive share of end-user switched access lines in the Commonwealth has increased from 12 percent in June 2002 to 22 percent at year end 2005.[18]

Technological developments have also facilitated entry into the mass market by greatly reducing entry and expansion costs. As discussed in detail below and shown in the exhibits, a growing number of competitors throughout Verizon's service area are offering and providing a full slate of communications services, including basic local exchange service, to mass market customers, typically over their own facilities. As Dr. Eisenach demonstrates, the cost of entry into more rural areas has also declined significantly, thanks in part to the increasing availability of high-capacity fiber infrastructures in these areas.

Q. WHAT EMPIRICAL EVIDENCE IS AVAILABLE TO PROVE THE EASE OF ENTRY INTO THE MASS MARKET?

A. The data included in the exhibits to this filing show that numerous competitors, in particular, facilities-based competitors, have already entered and are currently serving mass market customers throughout Verizon's service area. Thus, there are no significant barriers to entry into the mass market.

Q. HOW HAVE TECHNOLOGICAL DEVELOPMENTS FACILITATED CABLE COMPANIES' ENTRY AND EXPANSION IN THE MASS MARKET?

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[17] *See I/M/O Application by Verizon Virginia Inc., Verizon Long Distance Virginia, Inc., Verizon Enterprise Solutions Virginia Inc., Verizon Global Networks Inc., and Verizon Select Services of Virginia Inc. for (cont.) Authorization to Provide In-Region InterLATA Services in Virginia*; WC Docket No. 02-214, FCC 02-297, Rel. Oct. 30, 2002 at ¶ 1.

[18] *See* FCC Report, "*Local Telephone Competition: Status as of December 31, 2005*," rel. July 2006 at Table 8 (Exhibit Misc.West-1).

A. In the past fifteen years, many cable companies nationwide, most notably Cox in Virginia, have invested billions of dollars to upgrade their networks to provide circuit-switched telephony. Recently, cable companies have begun expanding using softswitch technology, which allows them to offer packet-switched telephony or VoIP.[19] While the cable MSOs' costs of providing circuit-switched telephony have declined considerably in recent years, IP-based technologies are considerably less expensive than circuit-switched technology and have greatly facilitated cable entry into voice telephony. A December 2005 report published by In-Stat noted that:

> A key issue for cable operators who are in the process of deploying cable telephony service is the actual start-up costs of service. In-Stat has been tracking these costs closely for several years, and the cost trend continues to be consistent: the provisioning of both VoIP and circuit-switched cable telephony gets cheaper every year.
>
> * * *
>
> The data show that a current circuit-switched cable telephony customer costs a cable MSO, like Comcast or Cox, approximately $375 to activate. This cost has dropped considerably over the past few years, from $600 in 2000 and around $420 in late 2004.
>
> * * *
>
> In comparison to the cost of a circuit-switched solution, the estimated cost for a premise powered VoIP-based cable telephony solution is approximately $280 per customer.[20]

From the end-user's perspective, cable telephony service is no different than that of Verizon's. Cable telephony allows customers to use their existing phones and

[19] *See* http://www.cabledatacomnews.com/apr05/apr05-3.html.

[20] In-Stat, "*Cable Telephony Service: VoIP Drives Subscriber Growth,*" December 2005, p. 28.

inside wiring. Softswitches can provide the same features (call waiting, caller ID, etc.) that Verizon currently provides with its circuit switches. Additionally, contrary to popular belief, cable telephony does NOT use the Internet. Rather, cable companies carry the voice traffic on their own private IP networks before interconnecting with the public switched telephone network ("PSTN").[21] Technically, customers do not even need a cable modem or broadband to use cable telephony.

Cable companies have used VoIP technology to add substantial and increasing numbers of voice subscribers and, according to Bernstein Research,

> the acceleration in VoIP subscribership growth shows no sign of letting up. Comcast, [which serves customers in Virginia] and which has until now been a relative VoIP laggard, appears finally to have hit its stride.[22]

In Bernstein's view,

> [t]he fact that cable is gaining an increasing share of voice subscribers should not be a surprise .... VoIP, as part of an attractively priced triple-play bundle, gives the [cable companies] a compelling competitive advantage over the stand-alone [VoIP] providers like Vonage. In addition, cable enjoys a service quality advantage over the stand alone providers, as it has the capability to prioritize the packets associated with its own VoIP service over standard Internet-based packets. The MSOs' packet prioritization capabilities come with the upgrade to the newer DOCSIS 2.0 systems (which allow five levels of prioritizing, as opposed to a mere two levels in DOCSIS 1.1), supporting differentiation of the cable service versus the independent operators, which simply ride the consumer's carrier – or MSO-provided broadband connection with other standard Internet packets.[23]

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[21] Cable IP Telephony Primer: http://www.cabledatacomnews.com/internettv/cmic17.html.

[22] Bernstein Research Weekly Notes, "*Quarterly VoIP Monitor: Adoption Still Accelerating*," April 28, 2006, p. 1.

[23] *Id.* At 2.

Q. PLEASE EXPLAIN HOW TECHNOLOGICAL DEVELOPMENTS HAVE FACILITATED MOBILE WIRELESS PROVIDERS' ENTRY AND EXPANSION IN THE MASS MARKET.

A. The costs of expanding mobile wireless coverage have been declining, particularly as construction of cell towers has increased. As seen in Figures 2 and 3 below, tower companies have to date erected a total of 1,648 cell towers in Verizon's Virginia service area, more than one-third of which were built since 2000:

Figure 2

Wireless Towers in VZ Territory in Virginia

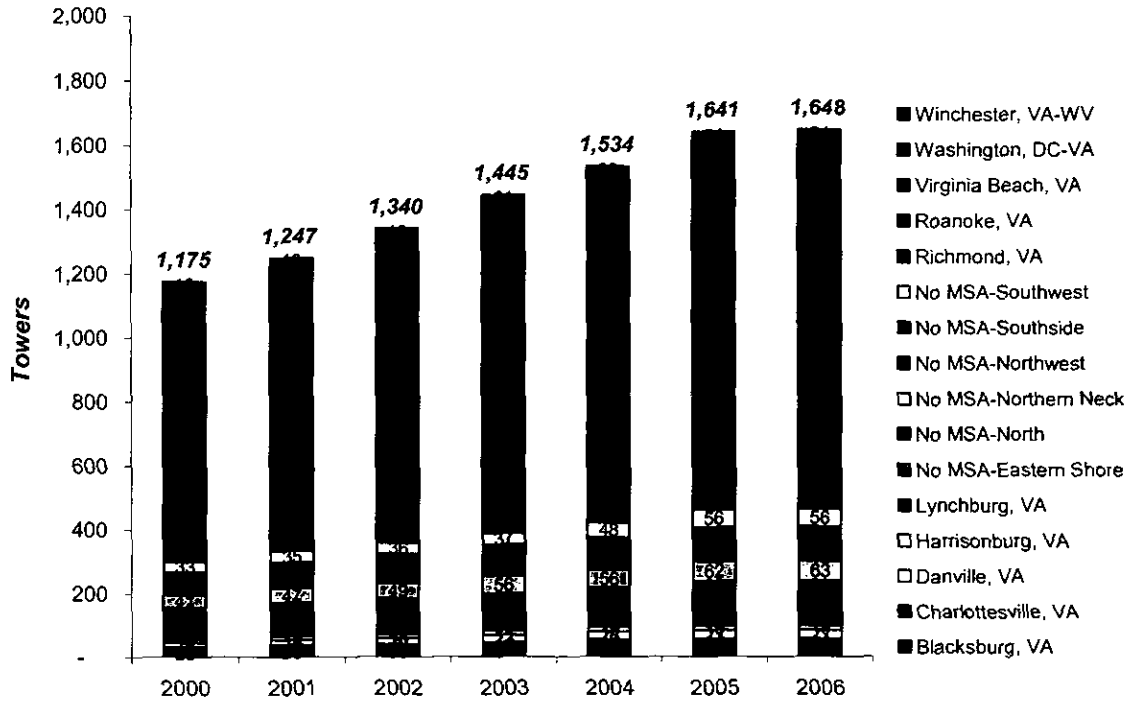
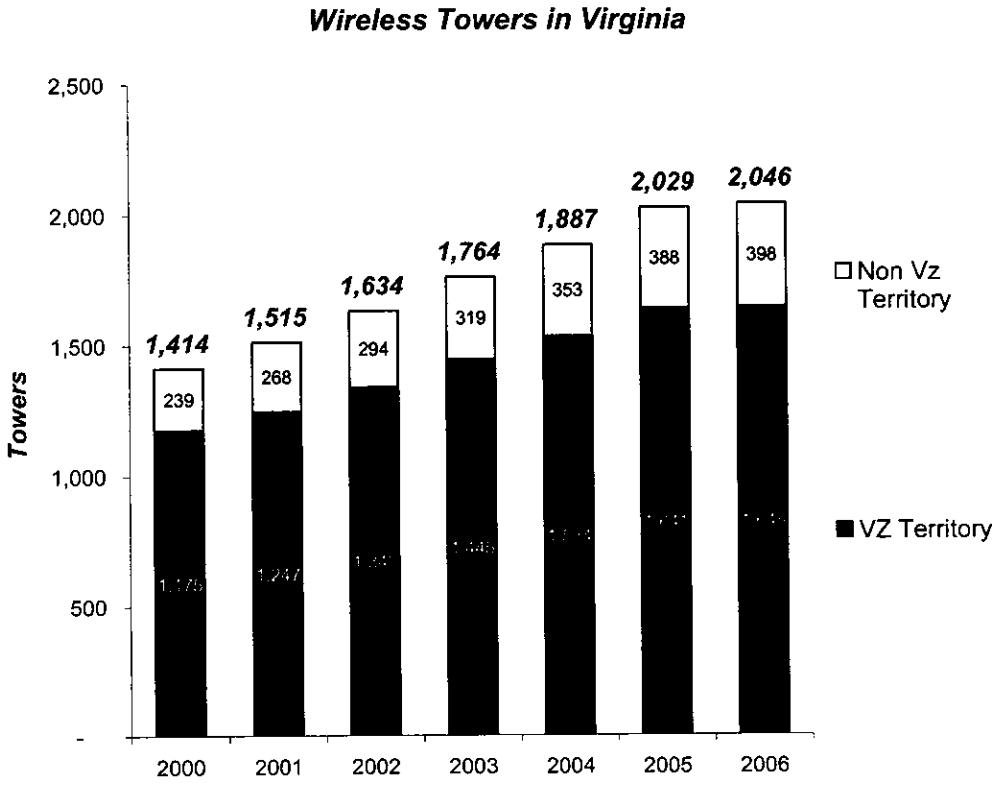


Figure 3



Source Figures 2 and 3: FCC Antenna Structure Database - http://wireless.fcc.gov/antenna/index.htm?job=uls_transaction&page=weekly.

Exhibit VA-11 shows that the tower construction has not been concentrated in one or two isolated geographic areas in the Commonwealth. In fact, both urban and rural areas have experienced considerable growth in tower construction since 2000 such that today, each MSA and non-MSA area in Verizon's service territory is served by at least 14 cell towers. In the more densely populated areas, there are as many as 514 cell towers.

Wireless towers, while not owned by wireless companies, are used directly to support the expansion of their network coverage. Today, very few carriers operate their own tower infrastructure. Most are owned by large tower

companies like American Tower, SBA, Crown Castle, and Global Signal. Since these towers generally are a fixed asset with predominantly fixed costs, the tower companies that own them are highly motivated to lease space to multiple providers. Industry wide, tower companies have, on average, 2.2 tenants per tower, indicating that for each new tower that is built, multiple wireless carriers are able to use the tower to deploy equipment and provide coverage. As a result, wireless companies can quickly expand their coverage simply by utilizing additional space on existing towers.

Additionally, as wireless companies look to expand coverage to areas with no existing structures, they can contract with tower companies who construct the physical structure. Wireless companies, therefore, take on very little upfront risk and require minimal capital investment. As the data shows, towers continue to be built across the state in all MSAs and non-MSA regions.

Q. ARE MOBILE WIRELESS CARRIERS CONTINUING TO INVEST CAPITAL IN THEIR NETWORKS?

A. Yes, in fact, ABI Research reports that wireless providers' capital expenditures on third-generation ("3G") technology are rising sharply. An article discussing ABI's analysis of wireless providers' capital spending notes:

> Two years ago, announcements of capital spending on 3G deployments were mainly made by the largest operators in the most developed nations, but today many smaller and incumbent operators in developing and less saturated markets are also increasing [capital expenditures ("CAPEX")] as they roll out 3G networks.
>
> * * *
>
> Operators' motivations for network spending have changed over the years, especially in mature markets. Once, network capacity

> requirements and market share growth through subscriber acquisition were the key motivators for CAPEX investments in mobile networks. But in an increasingly competitive and complex marketplace, high saturation levels, rapid technological changes and falling voice [average revenues per unit ("ARPUs")] are all affecting mobile operators' profitability. The needs for higher ARPU and reduced ... operational expenses are prompting them to invest in 3G and 3G-based technologies, and to support advanced data services by adding network infrastructure.[24]

Q. HOW HAS FIXED WIRELESS TECHNOLOGY FACILITATED ENTRY AND EXPANSION IN THE MASS MARKET?

A. As discussed further below, fixed wireless technologies from numerous equipment manufacturers, including Alvarian, Qualcomm (Flarion), Motorola and Navini, are in widespread use today. Due to its ability to cover large areas, fixed wireless has been used by competitors to expand their reach into more rural areas. It is also widely deployed in urban areas, and is being used by companies like XO Communications to serve enterprise customers. In fact, over 50 carriers use variations of wireless broadband technology to serve mass market customers in different parts of Virginia. These carriers offer broadband service at highly competitive rates, and many also bundle VoIP with their offering. New developments in fixed wireless technology, specifically Wi-MAX, will allow competitors to further expand their reach and serve new customers.

[24] TMC Net On the Web, "Hello Big Spender: Mobile Operators' 3G CAPEX Rising Sharply, says ABI Research," May 31, 2006, p. 1.

Q. WHAT IS WI-MAX?

A. Wi-MAX is a globally recognized standard developed by the Institute of Electrical and Electronics Engineers ("IEEE"), which has developed over 900 active industry standards. Used by competitors as an alternative offering to DSL or cable modem service, Wi-MAX can transmit 75Mbps at a range of 3-6 miles. Additionally, this technology works in both licensed and unlicensed spectrum bands, further facilitating competition as new entrants do not need to purchase spectrum licenses to offer service. Technically, the deployment of Wi-Max is very simple. New entrants deploy a Wi-Max antenna and base station on a cell tower or other tall structure such as a grain elevator or water tower. Any of the numerous towers in each MSA/non-MSA discussed above could be used to offer service. Customers need only install a small antenna on their roof to pick up the signal.

Q. HOW WIDELY DEPLOYED IS FIXED WIRELESS TECHNOLOGY IN VIRGINIA?

A. Fixed wireless technology represents a real competitive alternative for Virginia mass market customers. Roughly 71 percent of households in Verizon's service territory are able to purchase fixed wireless broadband service. In fact, wireless broadband serves 190,000 households in Virginia that do not currently have access to cable modem service.[25]

[25] *See* Exhibit VA-14.

Exhibit VA-14 shows that wireless broadband service has been used to serve both urban and rural areas of the Commonwealth.

Q. HOW HAS BROADBAND TECHNOLOGY FACILITATED ENTRY AND EXPANSION IN THE MASS MARKET?

A. In addition to the fact that cable companies serve mass market customers using IP-based technology, cable modem service, along with DSL and other broadband offerings, make it possible for VoIP providers to serve mass market customers using VoIP technology. Any customer who subscribes or can subscribe to broadband service can be served by any and all VoIP providers ***today***. The customer needs only an analog telephone adapter ("ATA") to connect their traditional analog phone to their broadband router.

Notably, a third-party VoIP service provider can provide service anywhere that broadband facilities are available without deploying additional network facilities in the customer's area. This greatly simplifies the process by which providers introduce their service in a particular area, and virtually eliminates any arguable "barriers to entry." In fact, VoIP places no restriction on the physical location of the customer or the softswitch. This has many advantages.

First, a VoIP provider can place all of its switching equipment in a centrally located facility, eliminating the need to manage multiple switches within a state or eliminating the need for a switch in Virginia at all. Second, a VoIP customer in Virginia can obtain from a VoIP provider nearly any number from any area that provider serves. A VoIP customer also can obtain multiple numbers for the same phone at little or no incremental cost. For instance, a customer physically

located in Virginia may want both a local Virginia number and an Atlanta-area number if their son or daughter attends school in Atlanta. The student would dial the local Atlanta number, incurring no long distances charges, to call his or her parents back in Virginia. Finally, a VoIP customer can take his or her ATA to ***any*** broadband connection to receive calls. As an example, the same parents mentioned above could take their ATA (no bigger than most calculators) with them on vacation to Europe. As long as they have a broadband connection, they can make and receive calls as if they were in Virginia with no international calling fees.

Q. HOW HAVE DEVELOPMENTS IN TECHNOLOGY FACILITATED CLEC ENTRY AND EXPANSION IN THE MASS MARKET?

A. In general, CLECs readily can enter new geographic markets or expand their reach in existing geographic markets using technology that has become less expensive over time.

In particular, modern switches, which have no pre-set geographic limit, can be used to serve customers miles away by connecting those switches through backhaul facilities to the collocation arrangements discussed below. In many cases, for example, CLECs use switches located in the District of Columbia or Maryland to serve customers in Virginia. CLECs have deployed their switches such that they have an average radius of 46 miles.[26] Many switches have radii of

[26] To calculate the serving radii of CLEC switches, Verizon identified the central offices and rate centers that each CLEC serves. Then using the NPA/NXX database, each rate center is associated with the serving switch of the CLEC. The location of that switch, using its V&H coordinates obtained from the LERG, is then plotted. The distance from the switch to the furthest point in each of Verizon's central office areas that the switch serves is calculated. This distance is the effective radius of the switch as deployed by the CLEC.

more than 60 miles. CLECs have demonstrated, with actual deployments, that it is, in fact, economically feasible to serve customers quite a distance from their switch. As demonstrated in Exhibit VA-17, in most cases, at least one CLEC can serve customers in nearly every part of Verizon's Virginia service territory. In many instances, there are two or more CLECs capable of serving customers in Verizon's Virginia service territory. Using the actual serving radii of CLEC switches, roughly 76.2 percent of households, 75.8 percent of businesses, and over **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]

CLECs who purchase UNE loops from Verizon.[27]

As shown in Exhibit VA-17, CLECs are in fact using their switches to serve customers in every MSA and non-MSA region served by Verizon. Furthermore, CLECs may extend their competitive reach by deploying new switches or continuing to expand the reach of existing switches.

CLECs also face little or no capacity constraints on their switches, which are modular, allowing them to easily expand their existing switches to accommodate new customers. Lucent, a leading manufacturer of switches, offers numerous ways in which to modify existing switches (such as legacy 5ESS switches) to achieve greater efficiency. For example, Lucent's web page advertises:

> [Lucent's] new 5E-XC™ Applications portfolio offers significantly expanded capacity and enhanced capabilities to the 5ESS® switch. With 5E-XC hardware and software applications, you can

[27] Census Bureau and Verizon Access line data.

> profitably grow your wireline or wireless business, and migrate to a more efficient IP network architecture by building on your existing infrastructure. These new applications can help you cost-effectively migrate to converged voice and data networks while facilitating new revenue-generating services. Lucent Technologies has applied the latest Bell Laboratories innovations to the 5ESS switch to create this added performance and a powerful platform to help you respond to increased traffic demands and the need to implement next-generation network services. Our switching platforms are flexible, scalable and reliable. From the packet–ready 5E-XC High Capacity Switch to the 5ESS Very Compact Digital Exchange (VCDX) and BZ5000 switches, our switching products help you deploy cost–effective, revenue–generating solutions for your specific network requirements.
>
> The 5E-XC™ applications provide the capacity and converged networking capabilities that existing networks need to implement Lucent's Accelerate™ Voice over IP solutions to rapidly deliver next-generation services that enterprises and consumers want.[28]

Lucent also offers new switching applications that enable CLECs to expand greatly the existing capacity of their switches (and thereby serve more customers) relatively inexpensively:

> Lucent Technologies *5E-XC*™ High Capacity Switching applications leverage our new Communications Module 3 (CM-3) to provide the Time Division Multiplex switching function for *5ESS*® offices engineered with multiple switching modules. The CM-3 nearly triples the capacity of the *5ESS* Switch from 92,000 telephone trunks to 256,000 trunks.[29]

Lucent explains the value proposition inherent in these new technologies this way:

> *5E-XC* High Capacity Switching can relieve TDM congestion and expand the number of subscribers per switch. The CM-3 almost triples the *5ESS* switch fabric capacity from 92,000 to 256,000 ports, and together with High-Speed Signaling Links, can more than

[28] *See* http://www.lucent.com/products/solution/0,,CTID+2014-STID+10450-SOID+1448-LOCL+1,00.html (accessed June 28, 2006).

[29] *See* http://www.lucent.com/products/solution/0,,CTID+2014-STID+10450-SOID+1444-LOCL+1,00.html (accessed June 28, 2006).

> triple the processing capacity of the *5ESS* switch up to 2.5 million Busy Call Hour Attempts. This enables more revenue per switch while conserving capital. The CM-3 reduces operating expenses, consolidating the capacity of 12 cabinets into one, requiring 1/10th the power and fewer spares. It can save an estimated $54,000 per switch per year in operating costs and manage more wireline, wireless, toll, and dial-up traffic without the expense of additional switches.[30]

With the movement to packet-switched technology, Lucent also provides traditional wireline competitors solutions that enable them to leverage their existing investment while migrating toward IP-based telephony:

> Our Circuit and Packet Solutions, available today, are part of the *Accelerate*™ Next-Generation Communications Solutions portfolio and can help carriers rapidly deliver more valuable next-generation services over IP to subscribers. Our Circuit and Packet solutions help carriers leverage current investments by combining TDM and IP infrastructures into a simplified, integrated network through a phased approach that minimizes costs. With Lucent solutions, carriers can **deliver reliable carrier-class voice and next-generation data services ....**[31]

Q. WHAT OTHER FACTORS FACILITATE THE ABILITY OF COMPETITORS TO ENTER AND EXPAND IN THE MASS MARKET?

A. While Verizon has deployed switches in every wire center, CLECs can deploy a single switch in a geographic market and use collocation arrangements to expand their reach and capture sales. A competitor that collocates in a Verizon central office gains access to all customers served by that office. Competitors have collocation arrangements in place in **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] percent of total access lines in Verizon's territory.

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[30] *Id.*

[31] *See* http://www.lucent.com/solutions/circuit_packet.html (emphasis in original) (accessed June 28, 2006.)

These collocation arrangements have been strategically placed in those central offices that provide access to the greatest number of customers all across Virginia, including **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL].

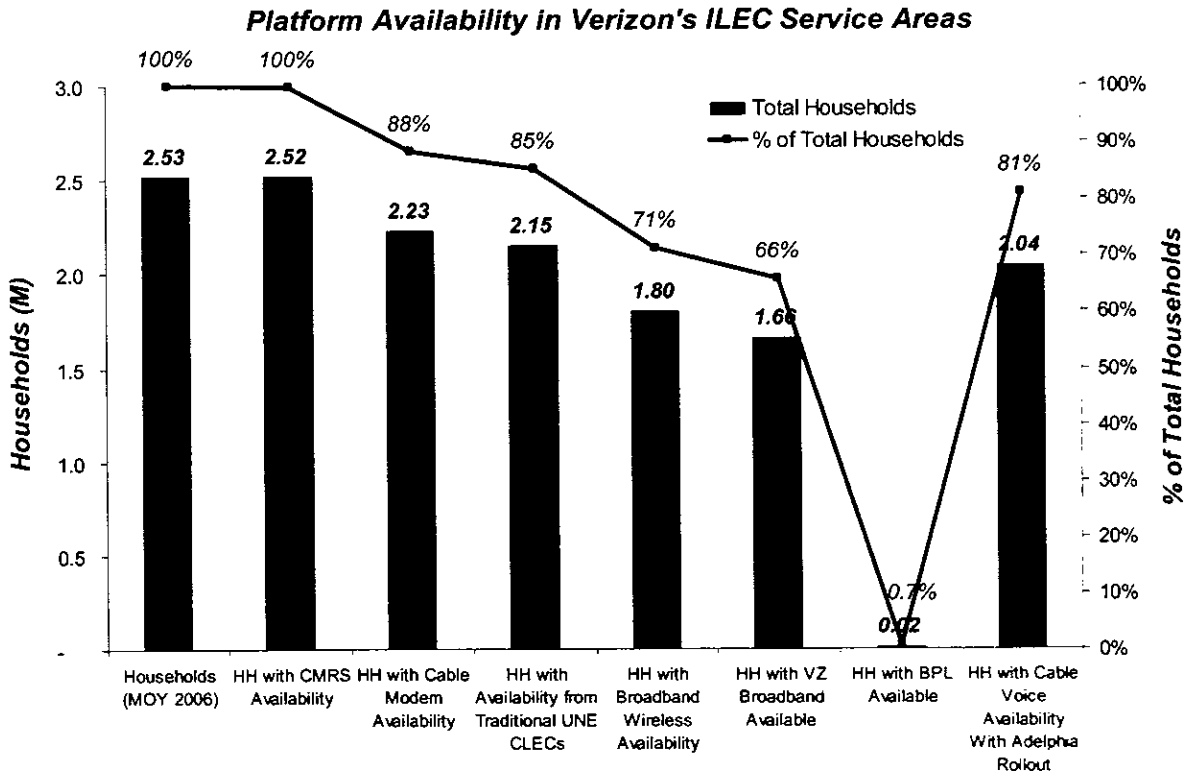
Moreover, CLECs can (and do) use Verizon resale, Wholesale Advantage, and/or UNEs to enter and expand their presence in the statewide mass market. In doing so, they incur only a small fraction of the investment costs that Verizon incurred to build the network and obtain wholesale prices that reflect the full economies of scale and scope that Verizon would experience. In the case of resale or Wholesale Advantage, CLECs do not deploy any network equipment at all, and can begin serving customers with little to no lead time. Even with UNEs, CLECs only incur minimal investment costs in order to supply a full range of communications related services throughout Virginia.

D. Numerous Competitors Are Present and Are Reasonably Meeting the Needs of Mass Market Customers in Virginia

Q. ARE COMPETITORS PRESENT IN THE MASS MARKET AND REASONABLY MEETING THE NEEDS OF MASS MARKET CUSTOMERS WITHIN VERIZON'S SERVICE TERRITORY?

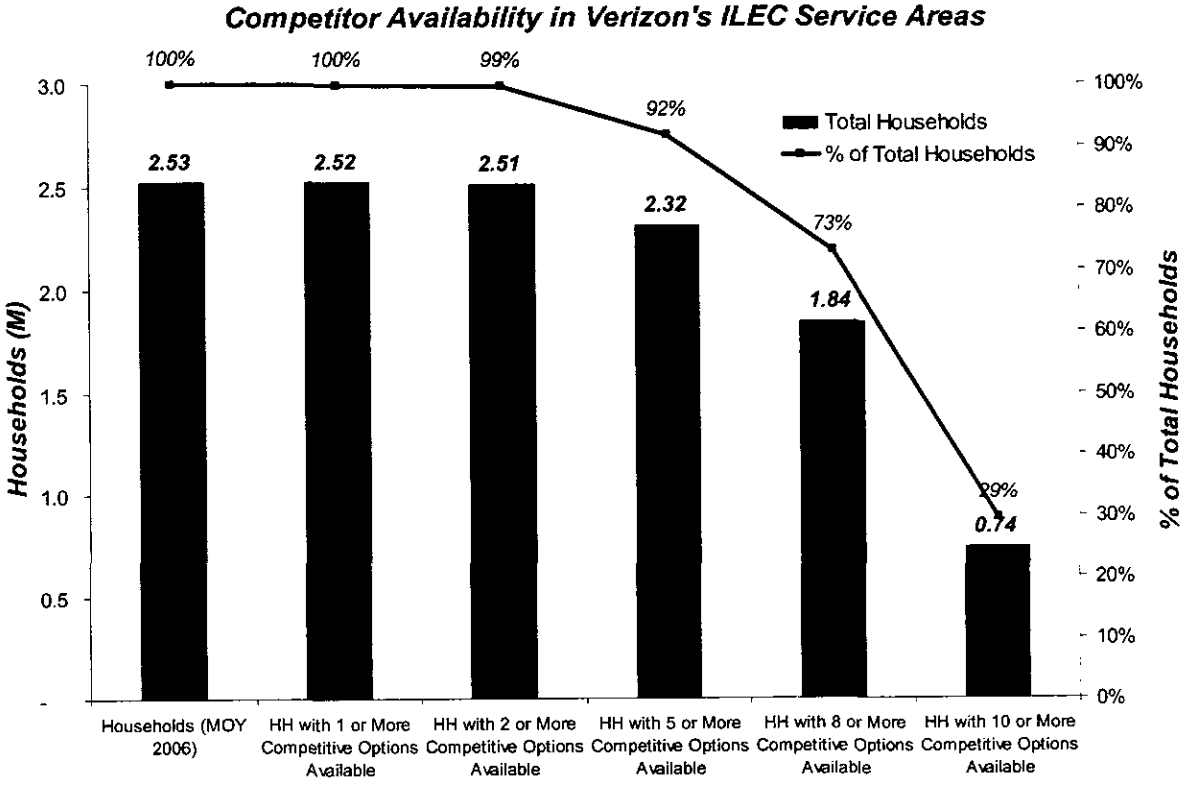
A. Yes. As shown in Figure 4 below, a wide variety of competitive providers are available to mass market customers in Virginia over at least six different technology platforms. These include CMRS, cable modem or telephony, fixed wireless broadband, broadband powerline, traditional wireline CLECs, or Verizon broadband. Specifically, 96 percent of households in Virginia have access to two or more communications platforms, 90 percent have access to 3 or more, and 78 have access to four or more.

FIGURE 4



Furthermore, as shown in Figure 5, there are multiple service providers operating on each technology platform. Overall, 99 percent of Virginia households have access to two or more competitive service providers, 92 percent have access to five or more and 73 percent have access to eight or more.[32]

FIGURE 5



At least 50 unique communications services providers currently serve, and thus reasonably meet the needs of mass market customers in Verizon's service area. This includes **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** CLECs, 14 cable companies, 9 wireless services providers, countless broadband providers,

[32] *See* VA Exhibit-4.

and at least 6 VoIP providers.[33] This competition has dramatically affected Verizon, as evidenced by a **[BEGIN CONFIDENTIAL] [END CONFIDENTIAL]** percent decline in Verizon's residential access lines from December 2003 to March 2006. For the period from December 2003 to December 2005, Verizon experienced a corresponding 17.5 percent drop in Carrier Common Line access minutes-of-use.[34]

1. Numerous Competitors Are Reasonably Meeting the Needs of Residential Customers

a. Cable Competitors

Q. PLEASE DESCRIBE HOW CABLE COMPANIES COMPETE WITH VERIZON TO SERVE RESIDENTIAL CUSTOMERS.

A. Cable companies currently compete with Verizon to provide broadband services (*i.e.*, high-speed internet access), telephony services and video services. Marketed as Digital Phone, Comcast and Cox offer cable telephone service as a stand-alone service, and more typically as part of a "triple play" bundle. In fact, Cox has offered phone service in Virginia since 1999. Most cable providers offer unlimited local and long distance for a fixed fee. For instance, Cox, throughout its service area nationally and in Virginia, offers unlimited local and long distance calling, plus caller ID and other features, for only $49.99 per month if the customer also subscribes to cable television service. The price for the bundle is

[33] *See* Warren Communications News, Inc., *The Television and Cable Factbook* and Exhibits VA-12 and VA-13.

[34] FCC Statistics, National Exchange Carrier Association, Network Usage by Carrier, 2001 through 2005. Exhibit Misc.West-2.

only $30 if the customer also subscribes to both cable television and cable broadband service.

Q. ARE CABLE COMPANIES REASONABLY MEETING THE COMMUNICATIONS NEEDS OF RESIDENTIAL CUSTOMERS IN VERIZON'S SERVING AREA?

A. Yes. In fact, cable companies are among the most competitive challengers to the wireline companies (that is, ILECs and CLECs) in Virginia today. Having invested in substantial infrastructure upgrades since the 1990s, the companies now provide voice telephony and broadband services that compete directly with LEC services. In addition to injecting new competition for voice services, this competition has stimulated lower prices for broadband services, especially to residential customers, and provided a transmission medium on which VoIP providers can offer their voice services.

Q. ARE CABLE COMPANIES' SERVICES WIDELY AVAILABLE THROUGHOUT VERIZON'S SERVICE AREA?

A. Yes. As shown in Table 1 below, cable companies already serve residential customers in every MSA and non-MSA region served by Verizon, and currently pass 2.3 million (or 90 percent) of all households in Verizon's total service area.

Table 1

Residential Cable Availability in Verizon Virginia's Territory- June 2006

Households by Product Availability

MSA	Total Households	Households Passed by Cable	Households with Cable Modem Availability	Households with Cable Telephony Availability
Blacksburg-Christiansburg-Radford, VA	58,454	41,563	41,563	44
Charlottesville, VA	8,113	3,380	1,184	-
Danville, VA	32,147	31,885	31,885	-
Harrisonburg, VA	40,878	35,659	35,659	-
Lynchburg, VA	86,608	56,448	56,039	1,640
No MSA-Eastern Shore	19,431	4,367	4,313	-
No MSA-North	33,929	11,645	11,603	-
No MSA-Northern Neck	38,660	25,092	16,230	302
No MSA-Northwest	27,969	26,402	26,387	-
No MSA-Southside	35,354	20,481	17,916	-
No MSA-Southwest	75,184	43,187	33,586	-
Richmond, VA	445,108	398,050	397,966	333,825
Roanoke, VA	93,374	91,680	89,843	76,419
Virginia Beach-Norfolk-Newport News, VA-NC	602,998	585,039	581,044	535,734
Washington-Arlington-Alexandria, DC-VA-MD-WV	890,156	848,333	848,333	558,584
Winchester, VA-WV	37,497	37,489	37,489	-
Grand Total	2,525,860	2,260,700	2,231,040	1,506,548

Source: *The Television and Cable Factbook*, Warren Communications News, Inc. and the Census Bureau.

In addition, and as described in more detail by Mr. Newman, nearly 85 percent of households throughout the Verizon territory subscribe to cable or satellite TV service, and of those households, almost 28 percent receive other services, such as broadband and/or local voice service. Significantly, 67 percent of all homes passed by cable companies in Verizon's service area are cable telephony ready, and nearly 99 percent are broadband ready (and thus able to obtain voice services from any of the numerous VoIP providers serving the Commonwealth even if the cable companies themselves have not yet started offering voice services).

Cable telephony deployment is expected to grow in the very near future. Comcast recently purchased the Virginia assets of the former Adelphia cable company, which pass over one-half million homes in Verizon's service area.[35] Comcast has announced plans to roll-out IP-based telephony over these assets, after which over 80% of Virginia households will have access to cable telephony.[36] Charter also has announced plans to deploy cable telephony.[37] Indeed, any price increase above market rates by Verizon would give Comcast and Charter an economic incentive to deploy VoIP sooner, which is a relatively quick process.

Exhibit VA-7 includes a map illustrating the coverage areas within each MSA and non-MSA region of each cable company serving that MSA or region. Until this year, Comcast primarily served customers in the Richmond and Washington-Arlington-Alexandria MSAs, but with the acquisition of Adelphia's Virginia assets, Comcast is now the largest cable company in the state, passing 1.1 million households.[38] Charter is focused in the Southwest and Southside non-MSAs with a small presence in the Richmond and Virginia Beach MSAs.

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[35] MB Docket No. 05-192, *I/M/O Applications for Consent to the Assignment and/or Transfer of Control of Licenses (between Time Warner, Adelphia and Comcast)*, FCC 06-105, Memorandum Opinion and Order, released July 21, 2006 at ¶¶ 257 & 258.

[36] *See*, "CMCSA – Q3 2006 Comcast Corporation Earnings Conference Call," Final Transcript, October 26, 2006 (Exhibit Misc.West-3).

[37] *See* Charter Press Release, April 27, 2006 (Exhibit Misc.West-4).

[38] Adelphia had a major presence in nearly every MSA.

Q. CAN CABLE COMPANIES USE WI-FI OR OTHER WIRELESS TECHNOLOGIES TO BETTER COMPETE WITH WIRELINE SERVICES?

A. Yes. Cable providers already use wireless technologies to extend services beyond the limits of their wired plant. For example, Charter and Cox use Wi-Fi technology to extend the reach of their cable routes. Comcast, Charter and Cox have either utilized or tested wireless line extensions to serve customers previously out of reach.[39]

Q. PLEASE PROVIDE A PROFILE OF THE MAJOR CABLE COMPANIES PROVIDING SERVICE IN VERIZON'S SERVICE AREA IN VIRGINIA.

A. Three major cable companies serve over 94 percent of the homes passed by cable in Verizon's service area: Comcast (including former Adelphia), Cox, and Charter.[40]

- **Cox Communications** is a large facilities-based provider of competitive communications services in Virginia, and its facilities pass nearly one million households, primarily in the Washington-Arlington-Alexandria, Virginia Beach-Norfolk-Newport News, and Roanoke MSAs. Earlier this year, Cox reported "'its best first growth quarter ever' in terms of subscriber growth, bolstered by growing take-up of the 'triple play' bundling of services."[41] Verizon's data show that, as of March 2006, Cox serves approximately **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]**

[39] *See, e.g.*, "*Cable's Quiet Growth Pump; Commercial Sales: $1 Billion a Year and Growing Fast*," *Multichannel News*, August 23, 2004.

[40] Warren Communications News, Inc., *The Television and Cable Factbook*.

[41] Reuters, "*Cox Says TV, Web, Phone Bundle Helps Keep Subscribers*," (June 6, 2006) http://yahoo.reuters.com/news/articlehybrid.aspx?storyID=urn:newsml:reuters.com:20060606:MTFH974 7_2006-06-06_20-31-02_N06415357&type=comktNews&rpc=44.

residential access lines in Verizon's Virginia service area over its own facilities. Cox has deployed fiber to at least 1,900 buildings, and operates local voice switches in Norfolk and Newport News.[42] In a May 2006 survey conducted by ACSI, consumers named Cox the number one provider of fixed line telephone service in the nation.[43]

- **Comcast** is the third largest cable television company in the United States and, with the completion of its acquisition of Adelphia's Virginia assets, has become the largest facilities-based provider of competitive communications services in the Commonwealth.[44] Discussing Comcast's earnings earlier this year, Comcast Chairman and CEO Brian Roberts announced:

> Our first quarter results set new records across the board. [Revenue Generating Units] adoption accelerated in the first three months to the highest levels in the Company's history. We posted record subscriber additions in digital, high-speed Internet and voice and added more basic subscribers this quarter than in any first quarter in the last three years. This terrific performance reflects our success in delivering superior services and in forging broader relationships and stronger connections with our customers.
>
> The next several years will provide tremendous growth opportunities for Comcast. Comcast Digital Voice is available to more people every day, and by the end of this year we will be marketing our "Triple Play" of video, voice, and data services to the majority of our customers. This will continue to reinforce our competitive advantage and position

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[42] GeoLit™ Report - Fiber Building Database.

[43] *See* http://theacsi.org/first_quarter.htm. (accessed August 7, 2006).

[44] *See* Time Warner Inc., Press Release, *Time Warner and Comcast Complete Adelphia Communications Transactions,* July 31, 2006.

> us to deliver more value to our customers and shareholders.[45]
>
> Phone is now a $1 billion run rate business as we continue to see rapid growth in subscribers and footprint. We're up to about 30 million homes by year end that will have CDV (Comcast Digital Voice) available. Not all of those are yet doing the full triple play and of course we have the Adelphian markets to look forward to accelerating CDV and triple play in those markets.
>
> Triple Play, as we've been saying throughout the year and it's now being confirmed, as it has with other cable companies, stimulates higher growth rates....[46]

As of March 2006, Comcast provides facilities-based service to at least **[BEGIN CONFIDENTIAL]** · **[END CONFIDENTIAL]** residential lines in Verizon's serving territory. As Bernstein Research recently reported, "Comcast is finally gaining momentum in VoIP after a very slow start in 2005."[47] Bernstein predicted that "Comcast will have 33 million homes passed by VoIP by the end of 2006, and 1.4 million subscribers (4.3% penetration)."[48] Comcast serves customers in Virginia with at least one switch.

- **Charter**, which passes only 3.5 percent of all households in Virginia, does not yet offer voice services in Verizon's service territory. Charter currently only offers cable telephony in Bristol, VA, outside of Verizon's local service territory. However, the company is focused on VoIP, and has announced

[45] Comcast Press Release April 27, 2006, "*Comcast Report First Quarter 2006 Results.*"

[46] Comcast took over Adelphia's Virginia assets on July 31, 2006. *See*, "CMCSA – Q3 2006 Comcast Corporation Earnings Conference Call," Final Transcript, October 26, 2006.

[47] Bernstein Research, *Quarterly VoIP Monitor: VoIP Growth Still Accelerating*, April 18, 2006, at 6.

[48] *Id.*at 6.

plans to provide telephone service as part of a triple play bundle in the majority of its footprint in the near future.[49] Charter has already upgraded its cable plant to offer cable modem service, reaching 93 percent of its homes passed.[50] This deployment enables two-way communication on Charter's cable plant, and is the platform for the expansion of cable telephony, which is a relatively easy upgrade. According to Bernstein Research,

> Charter's VoIP offering has ... been ramping. At the end-of fourth-quarter 2005, we estimate that Charter had 76,000 VoIP subscribers, up from zero a year earlier. ... Recently, Charter announced that its VoIP footprint expanded by 35%, from 2.9 million homes to 3.9 million, in the first quarter alone. It also prereleased its first-quarter 2006 operating results, showing a near-doubling of the VoIP base in a single quarter, adding approximately 70,000 subscribers ....[51]

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[49] *See* Charter April 17, 2006 Press Release, *Charter Ramps Up Telephone Launches: Adds 1 Million Homes Passed in Seven New Markets; Now Serves 191,000 Phone Customers.*

[50] Warren Communications News, Inc., *The Television and Cable Factbook.*

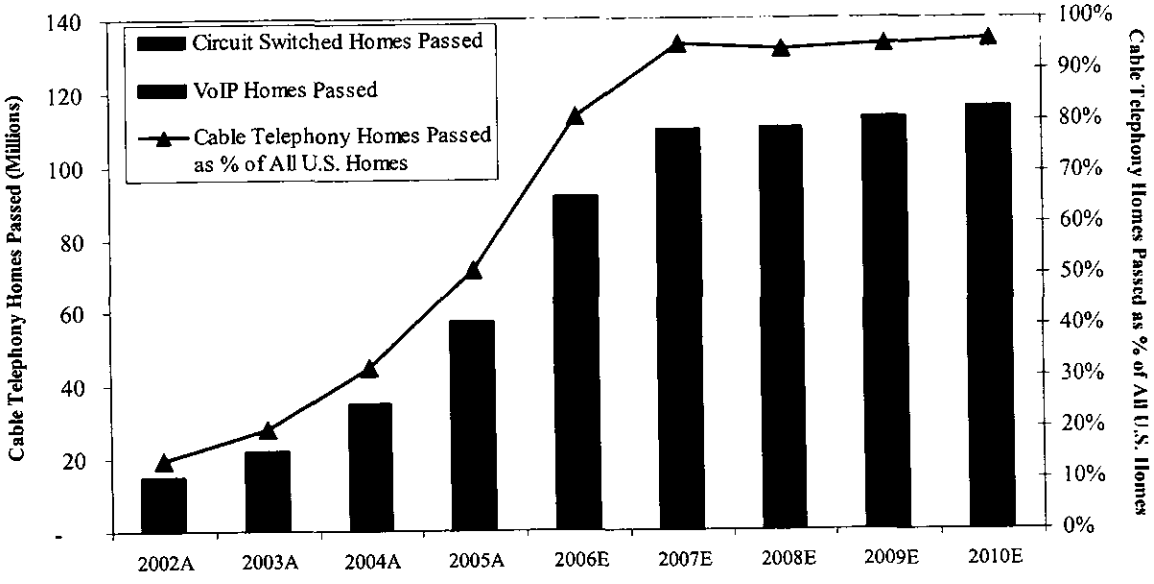
[51] Bernstein Research, *Quarterly VoIP Monitor: VoIP Growth Still Accelerating*, April 18, 2006, at 6.

Q. IS COMPETITION FROM CABLE COMPANIES EXPECTED TO INCREASE OVER TIME?

A. Yes, as cable companies expand their roll-out of IP-based telephony. Bernstein research estimated that by year-end 2006, 81 percent of all U.S. homes will have cable company provided telephony available, and that this will increase to 95 percent by year-end 2007.[52] Figure 6 below illustrates the dramatic increase in the availability of cable telephony to date, and the projected increase in same.

Figure 6

Cable Telephony Homes Passed 2002 - 2010



Source: J. Halpern, *et al.*, Bernstein Research, *Quarterly VoIP Monitor: VoIP Growth Still Accelerating*, April 18, 2006, Exhibit 12.

In addition, market research reports forecast continued rapid growth in cable telephony subscribers. Pike & Fisher estimates that "with practically every major MSO now deploying IP telephony service, cable operators are now adding about

[52] *Id.* at 11, Exhibit 12.